

## Macadamia Agrichemical Regulatory Risk Assessment

November 2025

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use. For older agrichemicals, these pressures are often the result of reconsiderations involving new or refined risk assessment methodologies that require the generation of new data. A consequence of which can be that many of these agrichemicals are not meeting contemporary risk assessment standards as the necessary data is unavailable, or where data is available, the risk posed is considered unacceptable.

The use of agrichemicals can also be impacted through differences in standards between trading partners. The lack of an appropriate pesticide maximum residue limit (MRL) in an importing country can, for practical purposes, effectively prohibit use in the exporting country to ensure compliance, as MRL breach would adversely affect market access.

The effects of the above are greater regulatory pressure placed on the use of individual agrichemicals or chemical groups. Consequently, the number of approved agrichemical options could be adversely impacted.

To assist strategic planning, with respect to future pest management options, the following tables have been developed to highlight the regulatory threats to agrichemicals currently approved for the management of the pests and diseases in **macadamias** in Australia, as well as assisting with any current initiatives aimed at identifying and addressing pest management deficiencies.

R0	Use no longer approved
R1	Short-term: Critical concern over retaining access < 1 year
R2	Medium-term: Maintaining access of significant concern <2-5 years
R3	Long-term: Potential issues associated with use – Monitoring required < 5 years
R4	No current risk/concerns

## Macadamia - Agrichemical Regulatory Risk Assessment

### INSECTICIDES/MITICIDES/NEMATOCIDES - Insect and other pests

Blue text = new APVMA approved uses

Active Constituent	MoA Group	Pest	Risks and Comments
(S)-METHOPRENE	7A	PER90213 for the control of Red Imported Fire Ant	Australia: No current concerns. Permit PER90213 Expiry date: 30/06/2027
ABAMECTIN	6	PER87510 for the control of Thrips, broad mites, and flat mites	Australia: <a href="#">APVMA nominated for reconsideration and spray drift assessment.</a> Permit PER87510 Expiry date: 28/02/2030 Codex MRL: 0.005 mg/Kg Canada: Re-evaluation finalised. Label amendments to mitigate risks to human health and environment (July, 2025)
ACEPHATE	1B	Banana spotting bug Flower thrips Fruit-spotting bug Macadamia flower caterpillar Macadamia leafminer Macadamia nutborer Red shouldered leaf beetle	Australia: <a href="#">APVMA nominated for reconsideration after 2029.</a> EU: Not approved Canada: In re-evaluation USA: Under Registration Review (scheduled)
ACETAMIPRID + PYRIPROXYFEN	4A + 7C	Banana-spotting bug Citrus mealybug Fruit-spotting bug Longtailed mealybug Pink wax scale	ACETAMIPRID Australia: APVMA: <a href="#">Currently under review.</a> Proposed regulatory decisions expected between December 2025 to October 2026. Codex MRL: 0.06 mg/Kg Canada: In re-evaluation USA: Under Registration Review (scheduled)  PYRIPROXYFEN Australia: No current concerns.

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<i>Bacillus thuringiensis</i>	11A	Caterpillars Helicoverpa Painted vine moth Armyworms Light brown apple moth Looper caterpillars	Australia: No current concerns. USA: Under Registration Review (scheduled)
BETACYFLUTHRIN	3A	Fruit-spotting bug Macadamia nutborer Yellow peach moth	Australia: No current concerns. EU: Not approved
CARBARYL	1A	Cornelian Macadamia cup moth Macadamia nutborer Macadamia twig-girdler Red shouldered leaf beetle Wingless grasshopper Yellow peach moth	Australia: No current concerns. Codex MRL: 1 mg/Kg EU: Not approved Canada: In re-evaluation USA: Under Registration Review (scheduled)
CHLORPYRIFOS	1B	--	Australia: <a href="#">The chemical review was completed in September 2024</a> . Most uses in horticultural crops were removed. After 30 September 2025, products with previously approved labels must not be supplied. The only remaining approved use is in Brassica crops as specified on current labels. EU: Not approved Canada: Cancelled USA: Agricultural uses cancelled. Very few registrations as Restricted Use Pesticide.
DIAZINON	1B	--	Australia : <a href="#">APVMA made a Final Decision on 2024</a> . After 10 September 2025, crop uses are no longer approved. Codex: All MRLs deleted EU: Not approved Canada: Cancelled USA: Under Registration Review (scheduled)

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FLUPYRADIFURONE	4D	Banana-spotting bug Fruit-spotting bug Macadamia lace bug Scirtothrips	Australia: No current concerns.
INDOXACARB	22A	PER86827 for the control of Macadamia seed weevil, Sigastus weevil	Australia: No current concerns. Permit PER86827 Expiry date: 31/03/2026 Codex MRL: 0.07 mg/Kg EU: Not approved UK: Withdrawn (2024).
ISOCYCLOSERAM	30	Fruit spotting bug Macadamia seed weevil	Australia: No current concerns.
LAMBDA-CYHALOTHRIN	3A	PER12961 for the control of Mediterranean Fruit Fly & Queensland Fruit Fly	Australia: No current concerns. Permit PER12961 Expiry date: 31/03/2030 Codex MRL: 0.01 mg/Kg EU: Approved, candidate for substitution.
MALATHION	1B	PER13642 for the control of Australian plague locust	Australia: The final regulatory decision was published in an <a href="#">APVMA Special Gazette on 2 May 2024</a> . Labels have been varied. Products bearing previously approved labels must not be supplied after 1 May 2026. Permit PER13642 Expiry date: 30/04/2030 UK: Withdrawn (2025). Canada: In re-evaluation USA: Under Registration Review (scheduled)
METHOMYL	1A	PER90592 for the control of Banana caterpillar	Australia: APVMA reconsideration. <a href="#">Prioritised to be commenced by 2026</a> . Permit PER90592 Expiry date: 30/04/2026 EU: Not approved Canada: In re-evaluation USA: Under Registration Review (scheduled)

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METHOXYFENOZIDE	18	Macadamia flower caterpillar Macadamia nutborer	Australia: No current concerns. Codex MRL: 0.1 mg/Kg EU: Approved, candidate for substitution. Canada: In re-evaluation
PETROLEUM OIL	UN	PER11635 for the control of Macadamia felted coccid	Australia: No current concerns. Permit PER11635 Expiry date: 30/04/2030 EU: Not approved
POTASSIUM SALTS OF FATTY ACIDS	--	Spider mites	Australia: No current concerns. Canada: In re-evaluation
PYRIPROXYFEN	7C	PER87728 for the control of Red imported fire ants	Australia: No current concerns. Permit PER87728 Expiry date: 28/02/2026
SPINETORAM	5	Macadamia nutborer Macadamia twig-girdler Yellow peach moth Yellow peach moth	Australia: No current concerns. Codex MRL: 0.01 mg/Kg EU: Not approved UK: Withdrawn (2024). Canada: In re-evaluation
SPINOSAD	5	PER80719 and PER93557 for the control of Mediterranean Fruit Fly and Queensland Fruit Fly	Australia: No current concerns. Permit PER80719 Expiry date: 31/03/2028 Permit PER93557 Expiry date: 30/11/2025 Codex MRL: 0.07 mg/Kg Canada: In re-evaluation
SULFOXAFLOX	4C	Aphids Banana-spotting bug Black citrus aphid Fruit-spotting bug	Australia: No current concerns. Codex MRL: 0.03 mg/Kg
TAU-FLUVALINATE	3A	Macadamia Lace Bug ( <i>Ulonemia concava</i> or <i>Ulonemia decoris</i> )	Australia: No current concerns.

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TEBUFENOZIDE	18	Macadamia flower caterpillar Macadamia nutborer	Australia: No current concerns.
TETRANILIPROLE	28	Sigastus weevil / macadamia seed weevil	Australia: No current concerns. Codex MRL: 0.03 mg/Kg
TRICHLORFON	1B	Macadamia flower caterpillar  PER13689 for the control of Fruit-spotting bug banana bug, green vegetable bug	Australia: <a href="#">APVMA nominated for reconsideration after 2029.</a> Permit PER13689 Expiry date: 28/02/2027 EU: Not approved Canada: Cancelled USA: Under Registration Review (scheduled)

### FUNGICIDES – Disease Control

Active Constituent	MoA Group	Pest	Risks and Comments
AZOXYSTROBIN   TEBUCONAZOLE	11 + 3	Husk spot	AZOXYSTROBIN Australia: No current concerns. Codex MRL: 0.01 mg/Kg Canada: In re-evaluation  TEBUCONAZOLE Australia: APVMA: Removed from nomination list - maintain watching brief Codex MRL: 0.05 mg/Kg EU: Approved, candidate for substitution. Canada: In re-evaluation USA: Under Registration Review (scheduled)
CARBENDAZIM	1	Husk spot	Australia: <a href="#">APVMA Nominated for targeted spray drift reconsideration</a> Codex MRL: 0.1 mg/Kg EU: Not approved Canada: Cancelled

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COPPER	M1	Anthrachnose Husk spot Phomopsis husk rot & canker Phytophthora root rot Phytophthora stem rot	Australia: No current concerns.
DIFENOCONAZOLE	3	Husk spot	Australia: <a href="#">APVMA nominated for reconsideration after 2029.</a> Codex MRL: 0.03 mg/Kg EU: Approved, candidate for substitution. Canada: In re-evaluation
FLUOPYRAM   TEBUCONAZOLE	7 + 3	Husk spot Botrytis blight	FLUOPYRAM Australia: No current concerns. Codex MRL: 0.04 mg/Kg  TEBUCONAZOLE Australia: APVMA: Removed from nomination list - maintain watching brief Codex MRL: 0.05 mg/Kg EU: Approved, candidate for substitution. Canada: In re-evaluation USA: Under Registration Review (scheduled)
IPRODIONE	2	Botrytis blight Raceme blight (grey mould)	Australia: No current concerns. EU: Not approved USA: Under Registration Review (scheduled)
MEFENTRIFLUCONAZOLE	3	Husk spot	Australia: No current concerns. Codex MRL: 0.06 mg/Kg Canada: In re-evaluation
METALAXYL	4	Trunk (stem) canker	Australia: No current concerns. EU: Approved, candidate for substitution. Canada: In re-evaluation

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PENTHIOPYRAD	7	Husk spot	Australia: No current concerns. Codex MRL: 0.05 mg/Kg
PYRACLOSTROBIN	11	Husk spot	Australia: No current concerns. Codex MRL: 0.02 mg/Kg Canada: In re-evaluation
PYRACLOSTROBIN   FLUXAPYROXAD	11 + 7	Husk spot	PYRACLOSTROBIN Australia: No current concerns. Codex MRL: 0.02 mg/Kg Canada: In re-evaluation  FLUXAPYROXAD Australia: No current concerns. Codex MRL: 0.04 mg/Kg

### HERBICIDES – Weed Control

Active Constituent	MoA Group	Risks and Comments
CARFENTRAZONE	14	Australia: No current concerns.
DIQUAT	22	Australia: APVMA: <a href="#">Currently under review</a> . Publication of the final regulatory decision is now expected in Mid 2026. EU: Not approved USA: No agricultural uses allowed. Aquatic herbicide.
FLUMIOXAZIN	14	Australia: No current concerns. Codex MRL: 0.02 mg/Kg Canada: In re-evaluation
GLUFOSINATE-AMMONIUM	10	Australia: <a href="#">APVMA Nominated for targeted spray drift reconsideration</a> Codex MRL: 0.1 mg/Kg EU: Not approved Canada: In re-evaluation



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GLYPHOSATE	9	Australia: <a href="#">APVMA Nominated for targeted spray drift reconsideration</a> USA: Under Registration Review (scheduled)
HALOXYFOP	1	Australia: No current concerns. EU: Not approved
ISOXABEN	29	Australia: No current concerns.
ORYZALIN	3	Australia: No current concerns. EU: Not approved UK: Withdrawn (2024).
OXYFLUORFEN	14	Australia: No current concerns. EU: Approved, candidate for substitution. UK: Withdrawn (2024). Canada: In re-evaluation USA: Under Registration Review (scheduled)
PARAQUAT	22	Australia: APVMA: <a href="#">Currently under review</a> . Publication of the final regulatory decision <b>is now expected in Mid 2026</b> . Candidate chemical recommended to be listed to Rotterdam Convention. Codex MRL: 0.05 mg/Kg EU: Not approved Canada: Cancelled USA: Restricted use
PENDIMETHALIN	3	Australia: No current concerns. Codex MRL: 0.05 mg/Kg EU: Approved, candidate for substitution. Canada: In re-evaluation USA: Under Registration Review (scheduled)
TRIFLURALIN	3	Australia: No current concerns. EU: Not approved Canada: In re-evaluation USA: Under Registration Review (scheduled)

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### FUMIGANTS – Mixed Function

Active Constituent	Use	Risks and Comments
CHLOROPICRIN + 1,3-DICHLOROPROPENE	Control of soil borne diseases, plant parasitic Nematodes, Symphylans and Wireworms	<p>CHLOROPICRIN Australia: No current concerns. EU: Not approved USA: Restricted use</p> <p>1,3-DICHLOROPROPENE Australia: No current concerns. EU: Pending Canada: Cancelled</p>
DAZOMET	Control of bacterial spot (Xanthomonas spp.) (suppression only). Soil insects and nematodes	<p>Australia: No current concerns. USA: Under Registration Review (scheduled)</p>
ETHANEDINITRILE	Soil borne pathogens, nematodes and weeds	Australia: No current concerns.
METHAM PRESENT AS SODIUM SALT	Germinating weeds and soil-borne fungus diseases	Australia: No current concerns.

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**PLANT REGULATORS AND OTHERS** – Plant regulators, post-harvest treatments, rodenticides and others.

Active Constituent	Use	Risks and Comments
COUMATETRALYL	Control of rats	Australia: <a href="#">APVMA: Currently under Anticoagulant rodenticides chemical review</a> EU: Not approved
ETHEPHON	PER11462 for use as promoter of nutfall	Australia: No current concerns Permit PER11462 Expiry date: 31/05/2030
ZINC PHOSPHIDE	Control of rats and mice	Australia: No current concerns. UK: Withdrawn (2024). Canada: In re-evaluation USA: Under Registration Review (scheduled)

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